

IN THE CLAIMS

Replace the claims with the following rewritten listing:

1. (Currently Amended) An intervertebral disc prosthesis comprising two rigid half-shells in the form of cups or plates which are each intended to be fixed to one of two vertebrae adjacent to an intervertebral disc to be replaced, the two half-shells enclosing a compression pad made of at least two compressible materials of different hardness, wherein one of the two half-shells comprises, in its central zone, a shaft which is oriented toward the second half-shell, the second half-shell comprising, in its central zone, a stud whose cross section is smaller than that of the shaft and which is oriented toward the first half-shell and is engaged in the shaft of the latter, a sum of lengths of the shaft and of the stud being greater than a distance between the two half-shells, the compression pad being disposed between the two half-shells, including within a volume situated between the shaft and the stud, volumes disposed outside and inside of the shaft, respectively, are filled with compressible materials of different hardness.
2. (Cancelled).
3. (Previously Presented) The prosthesis as claimed in claim 2, wherein the compressible material situated outside the shaft is harder than the material situated inside the shaft.
4. (Previously Presented) The prosthesis as claimed in claim 3, wherein the compressible material situated outside the shaft has a Shore A hardness of between 60 and 100, while the compressible material situated inside the shaft has a Shore A hardness of between 25 and 30.
5. (Previously Presented) The prosthesis as claimed in claim 3, wherein the compressible material situated outside the shaft is a synthetic material of the polycarbonate urethane type.

6. (Previously Presented) The prosthesis as claimed in claim 3, wherein the compressible material situated inside the shaft is formed by a mixture of two-component silicone elastomer, crosslinking at ambient temperature, and of an encapsulating copolymer whose blowing agent is isobutane.
7. (Previously Presented) The prosthesis as claimed in claim 1, wherein the two half-shells are made of a titanium-based alloy.
8. (Previously Presented) The prosthesis as claimed in claim 1, wherein each half-shell comprises, on its outer face, points intended to promote its fixation to a vertebra.
9. (Previously Presented) The prosthesis as claimed in claim 1, wherein each half-shell comprises, on its inner face, lugs for attachment of the compression pad.
10. (Previously Presented) The prosthesis as claimed in claim 1, wherein the stud projecting from a half-shell is fixed by being screwed into a through-hole in the latter.
11. (Previously Presented) The prosthesis as claimed in claim 1, wherein the stud and the shaft have a trapezoidal cross section.
12. (Previously Presented) The prosthesis as claimed in one of claims 1 through 11, characterized in that the stud (13) and the shaft (14) have, in transverse section, a non-circular cross section.
13. (Previously Presented) The prosthesis as claimed in claim 1, wherein outer surfaces of the half-shells comprise a coating intended to ensure primary osseous fixation.
14. (Currently Amended) A method for producing the prosthesis as claimed in claims 3 and 10 through 13, comprising placing the two half-shells in a mold, with the stud withdrawn,

injecting the material of greater hardness into the volume outside the shaft, pouring the material of lesser hardness into the volume inside the shaft via an opening which is formed in the half-shell and is intended to receive the stud, and then fixing the stud in place by screwing.